

***Pinus virginiana* - *Pinus (rigida, echinata)* - (*Quercus prinus*) / *Vaccinium pallidum* Forest**

COMMON NAME Virginia Pine - (Pitch Pine, Shortleaf Pine) - (Rock Chestnut Oak) / Hillside Blueberry
SYNONYM Appalachian Low Elevation Mixed Pine Forest
PHYSIOGNOMIC CLASS Forest (I)
PHYSIOGNOMIC SUBCLASS Evergreen forest (I.A)
PHYSIOGNOMIC GROUP Temperate or subpolar needle-leaved evergreen forest (I.A.8)
PHYSIOGNOMIC SUBGROUP Natural/Semi-natural (I.A.8.N)
FORMATION Rounded-crowned temperate or subpolar needle-leaved evergreen forest (I.A.8.N.b)

ALLIANCE *Pinus virginiana* Forest Alliance

CLASSIFICATION CONFIDENCE LEVEL 1

USFWS WETLAND SYSTEM Upland

RANGE

Globally

The potential range of this community is in the mountains and upper Piedmont from Pennsylvania to northern Georgia. It is known from the lower elevations of the Blue Ridge escarpment region, the western margin of the Blue Ridge, and on dry upper slopes in the Ridge and Valley and Cumberland Mountains. It occurs in Georgia, North Carolina, South Carolina, Tennessee, Kentucky, and may possibly occur in Alabama, Maryland, Pennsylvania, Virginia, and West Virginia.

Great Smoky Mountains National Park

This association was sampled on the Cades Cove quadrangle but not found on the Mount Le Conte quadrangle. On the Cades Cove quadrangle it was sampled or observed on the northern half of the quadrangle, below 2300 feet elevation, on south-facing slopes and low ridges. It was found north of the Cades Cove Loop Road in the vicinity of Copper Road, Rich Mountain Road, Tater Ridge, and the lower slopes around Allnight Ridge. West and south of the Cades Cove Loop Road this associations was found on the southwest slopes above Forge Creek Road and on the south slopes and ridges of Boring Ridge. This community is more common elsewhere in the Park. Many historic samples from the western portion of the Park (Calderwood quadrangle) represent this community.

ENVIRONMENTAL DESCRIPTION

Globally

This community occurs on narrow ridges and knobs, mid and upper slopes, bluff and cliff tops, and other exposed sites. It is found primarily on south-, southeast- or southwest-facing slopes on excessively drained, shallow soils, usually below 2000 feet elevation (at least in the southern Appalachians). Soils associated with this xeric forest are classified as Inceptisols, typically Lithic Dystrochrepts originating from sandstone, shale, and other noncalcareous parent material.

Great Smoky Mountains National Park

This community was found at elevations below 2300 feet on gentle to moderately steep slopes and low ridges. Sites supporting this community are exposed, typically with southern and western aspects. This forest is frequently fire-suppressed or affected by Southern pine beetle (*Dendroctonus frontalis*) and will have standing dead trees, thick litter layers, and much understory encroachment by hardwood species.

MOST ABUNDANT SPECIES

Globally

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Pinus virginiana</i>
Tall shrub	<i>Kalmia latifolia</i>
Short shrub	<i>Vaccinium pallidum</i> , <i>Vaccinium stamineum</i> , <i>Gaylussacia baccata</i>

Great Smoky Mountains National Park

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Pinus virginiana</i>
Subcanopy	<i>Acer rubrum</i>
Tall shrub	<i>Kalmia latifolia</i> , <i>Vaccinium stamineum</i>
Short shrub	<i>Vaccinium pallidum</i>
Vine/Liana	<i>Smilax rotundifolia</i>

CHARACTERISTIC SPECIES

Globally

Pinus virginiana, *Comptonia peregrina*, *Gaultheria procumbens*, *Pteridium aquilinum*, *Xerophyllum asphodeloides*

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Pinus virginiana, *Kalmia latifolia*, *Vaccinium pallidum*, *Vaccinium hirsutum*, *Vaccinium stamineum*, *Pteridium aquilinum*, *Tephrosia virginiana*, *Solidago odora*.

VEGETATION DESCRIPTION

Globally

Includes forest vegetation of low ridges and slopes, where *Pinus virginiana* dominates the canopy or occurs with mixes of *Pinus rigida*, *Pinus echinata* or *Pinus strobus*. *Pinus pungens* may be present but is typically absent or only a very minor component. These forests have sparse to moderate shrub cover, dominated by deciduous ericads, typically *Vaccinium pallidum*, although *Kalmia latifolia* may be locally dominant in some stands. This is often a low-stature forest with a somewhat open to closed canopy. Small stems of *Quercus prinus*, *Quercus coccinea*, *Acer rubrum*, *Nyssa sylvatica*, and *Oxydendrum arboreum* are common in the subcanopy and sapling strata, particularly in areas where fire has been excluded. In southern parts of the range, *Quercus marilandica*, *Quercus falcata*, and *Quercus stellata* can be deciduous components. Other shrub species can include *Vaccinium stamineum*, *Gaylussacia ursina*, *Gaylussacia baccata*, *Sassafras albidum*, and (in southwestern North Carolina and southeastern Tennessee) *Vaccinium hirsutum*. Herbaceous cover is typically sparse. Characteristic species include *Galax urceolata*, *Hypoxis hirsuta*, *Baptisia tinctoria*, *Euphorbia corollata*, *Pityopsis graminifolia* var. *latifolia*, and *Pteridium aquilinum* var. *latiusculum*.

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Forests with canopies dominated by *Pinus virginiana*, sometimes with lesser amounts of *Pinus rigida* or *Pinus echinata*. *Acer rubrum* often dominates the subcanopy. Other canopy and subcanopy trees increase with fire suppression and include *Quercus prinus*, *Quercus coccinea*, *Quercus alba*, *Quercus marilandica*, *Quercus velutina*, *Pinus strobus*, *Oxydendrum arboreum*, *Nyssa sylvatica*, and *Tsuga canadensis*. The tall-shrub stratum can be open to moderately dense and is typically dominated by *Kalmia latifolia* and/or *Vaccinium stamineum*. The short-shrub stratum is typically dense and dominated by *Vaccinium pallidum* and/or *Gaylussacia ursina*. Fire-suppressed examples often have dense *Pinus strobus* in the shrub stratum. Other shrubs include saplings of canopy and subcanopy species as well as *Ilex opaca*, *Viburnum acerifolium*, *Vaccinium hirsutum*, *Amelanchier laevis*, and *Sassafras albidum*. Common vines are *Smilax glauca* and *Smilax rotundifolia*. Herb cover is sparse, and leaf litter often dominates the ground layer. Typical species in the herb stratum are *Galax urceolata*, *Pteridium aquilinum*, *Schizachyrium scoparium*, *Epigaea repens*, *Chimaphila maculata*, and *Dichanthelium commutatum*.

OTHER NOTEWORTHY SPECIES

No information

CONSERVATION RANK G4?

RANK JUSTIFICATION

DATABASE CODE CEG007119

COMMENTS

Globally

Formerly *Pinus virginiana* / *Kalmia latifolia* - *Vaccinium pallidum* Forest (CEGL007119) but merged with *Pinus (echinata, rigida, virginiana)* / *Vaccinium (pallidum, stamineum)* - *Kalmia latifolia* Forest (CEGL006061) by SBR community technical team; 2-98.

Great Smoky Mountains National Park

This community is often bordered by mixed oak forests

REFERENCES

Barden 1977, Burns and Honkala 1990a, Cooper 1963, Evans 1991, Eyre 1980, Gettman 1974, Malter 1977, Nelson 1986, Racine 1966, Rawinski 1992, Schafale and Weakley 1990, Whittaker 1956